



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/058,175	01/29/2002	Joshua Gee-Yuen Mahowald	53470.009005	3199

21967 7590 08/19/2005

HUNTON & WILLIAMS LLP
INTELLECTUAL PROPERTY DEPARTMENT
1900 K STREET, N.W.
SUITE 1200
WASHINGTON, DC 20006-1109

EXAMINER

ALBERTALLI, BRIAN LOUIS

ART UNIT PAPER NUMBER

2655

DATE MAILED: 08/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/058,175

Applicant(s)

MAHOWALD ET AL.

Examiner

Brian L. Albertalli

Art Unit

2655

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 July 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed July 5, 2005 have been fully considered but they are not persuasive.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Regarding the argument that the Office Action improperly assumes the combination in the claim would be desired (page 8, 1st paragraph of Applicant's arguments), the Examiner contends that the use of n-best lists is so well established in the art of speech recognition, one of ordinary skill in the art would be driven to use n-best lists, regardless of the implementation (in this instance, a VoxML environment). Speech recognizers rarely produce completely accurate recognition results, especially when words have similar pronunciations. A speech recognition system that utilizes an N-best list saves the N most likely recognition results for each utterance. Then, if there are multiple recognition results, the N most likely recognition results can be presented to the user to select from (as taught by, for example, Beith et al.). This ensures that the

speech recognizer correctly interprets the word uttered by the user. As discussed by Motorola (*VoxML 1.1 Language Reference*) the VoxML language is specifically designed for use in speech recognition applications (interactive speech applications, see page 1, What is VoxML?). Given the level of ordinary skill in the art at the time of invention, a VoxML developer writing applications utilizing speech recognition would be motivated to implement an N-best list so that a user's utterances were correctly interpreted.

Regarding the Applicant's second argument that the Office Action fails to provide any evidence as to why one would choose to implement the n-best list as an element in the XML-based language (page 8, 2nd paragraph of Applicant's arguments), this too falls well within the level of ordinary skill in the art at the time of invention. It is thoroughly established that the use of elements in programming languages saves the developer from the burden of having to retype commonly used procedures each time the developer wishes to use that procedure. By implementing a commonly used procedure (in this case, an n-best list procedure) as an element, the developer has only to call the element and pass the needed parameters to the element in a single line of code. In contrast, if the procedure were not implemented as an element, the developer would have to rewrite the entire procedure each time the developer wanted to use the procedure, thereby increasing the amount of code entered by the developer and introducing more potential errors into the program.

Therefore, the rejections made in the previous Office Action stand.

2. Furthermore, with regard to the use of official notice in the rejections of claims 6, 12, and 18, it is noted that the applicant has not made any attempt to traverse the assertion of official notice, therefore the well-known in the art statement is taken to be admitted prior art (see MPEP 2144.03)

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Motorola (*VoxML 1.1 Language Reference*), in view of Beith et al. (U.S. Patent 6,449,496).

In regard to claims 1 and 7, Motorola discloses a markup language (VoxML) for facilitating voice-enabled communication between a voice service system and an individual and an active voice page comprising:

a hierarchical set of functional elements that define the capabilities of the markup language (page 2, Structure of a VoxML Document, lines 1-2), comprising:

a dialog element that defines a unit of interaction between the voice service system and an individual (page 13, the DIALOG element defines the basic unit of context within a VoxML application, lines 1-4);

an input element contained in the dialog element and operative to request from an individual during execution of a voice service (STEP element has an associated PROMPT element to present a request to a user, and an INPUT element to define the valid user input, page 46, STEP element, lines 1-3; page 19, INPUT element, lines 1-3; and page 40, PROMPT element, lines 1-2);

whereby one or more of the elements are arranged to define a voice service (interactive speech application, page 1, What is VoxML?).

Motorola additionally discloses that it is sometimes necessary to double check some information that a user has provided in a voice service environment and that providing an element to confirm the user input is easier for the developer (page 5, ACK element, lines 1-5).

Motorola does not disclose an n-best list filter element to request verification from a list of possible matches.

Beith et al. disclose a method for requesting verification from a list of possible matches for an audibly-uttered user response (Fig. 7B, if multiple recognition results match, the method cycles through the best matches to see if the user verifies one of the recognition results in step 336, column 9, lines 66-67 and column 10, lines 12-15).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Motorola so that the ACK element requested user verification for a

list of possible matches using the method disclosed by Beith et al., so that a VoxML developer that wanted to verify a user's response by presenting recognition results in an n-best list manner would easily be able to do so without having to develop their own method and corresponding VoxML code.

In regard to claims 2 and 8, the method disclosed by Beith et al. used in the combination of Motorola and Beith et al., as applied to claims 1 and 7, above, operates to cause a processing system to generate a list of possible matches for a received audible utterance (multiple name matches are sorted, Beith et al., column 9, lines 66-67).

In regard to claims 3 and 9, the method disclosed by Beith et al. used in the combination of Motorola and Beith et al., as applied to claims 1 and 7, above, comprises a namespace attribute that stores results from a grammar that are confirmed as not matching the utterance (see Beith et al., Fig. 7B, the method cycles through the list of possible recognition matches, moving to the next best match at step 346 when the possible recognition result is incorrect; the method, then, must necessarily store the results that are confirmed as not matching the utterance so that each possible recognition candidate is only presented one time to the user).

In regard to claims 4 and 10, Motorola discloses that the acknowledgement element comprises an expression attribute (page 5, Examples, in line 11 of the example

code, the VALUE NAME="type" specifies the answer given in the input element, lines 5-9 of the example, is to be verified).

In regard to claims 5 and 11, the method disclosed by Beith et al. used in the combination of Motorola and Beith et al., as applied to claims 1 and 7, above, specifies a loop to go through the list of possible matches for the utterance (when the user replies "no", the next best match is retrieved and presented to the user until all possible matches have been presented, Beith et al., column 10, lines 5-9).

In regard to claims 6 and 12, neither Motorola nor Beith et al. disclose that an error announcement is made to announce when a match is not found.

The Applicant's admitted prior art discloses it is notoriously well known and recognized in the art to provide the user with an announcement that no match has been found, such as "I did not understand" or requesting the user to repeat the utterance, so the user can confirm whether the action associated with the utterance has been properly executed or not.

It would have been obvious to one of ordinary skill in the art at the time of invention to further modify the combination of Motorola and Beith et al. to announce that no match was found, so the user knows that their command was not understood.

5. Claims 13-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Motorola, in view Beith et al., and further in view of Ladd et al. (U.S. Patent 6,269,336).

In regard to claim 13, Motorola discloses an XML-based page comprising (page 1, What is VoxML?, line 1):

at least one dialog element comprising content for delivery to an identified user during an interactive voice broadcast (page 13, the DIALOG element defines the basic unit of context within a VoxML application, which comprises all of the content for delivery to a user, lines 1-4);

at least one input element contained within the at least one dialog element, the at least one input element defining input to be received from the identified user during the interactive voice broadcast (STEP element has an associated PROMPT element to present a request to a user, and an INPUT element to define the valid user input, page 46, STEP element, lines 1-3; page 19, INPUT element, lines 1-3; and page 40, PROMPT element, lines 1-2);

Motorola additionally discloses that it is sometimes necessary to double check some information that a user has provided in a voice service environment and that providing an element to confirm the user input is easier for the developer (page 5, ACK element, lines 1-5).

Motorola does not disclose an n-best list filter element to request verification from a list of possible matches.

Beith et al. disclose a method for requesting verification from a list of possible matches for an audibly-uttered user response (Fig. 7B, if multiple recognition results match, the method cycles through the best matches to see if the user verifies one of the recognition results in step 336, column 9, lines 66-67 and column 10, lines 12-15).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Motorola so that the ACK element requested user verification for a list of possible matches using the method disclosed by Beith et al., so that a VoxML developer that wanted to verify a user's response by presenting recognition results in an n-best list manner would easily be able to do so without having to develop their own method and corresponding VoxML code.

Neither Motorola nor Beith et al. disclose that the XML-based page is executed in a call server.

Ladd et al. disclose a call server (Fig. 3, communication 212) that engages a user in a dialog based on the content of VoxML voice pages (column 6, lines 13-24).

It would have been obvious to one of ordinary skill in the art at the time of invention to execute the voice pages created by the combination of Motorola and Beith et al. on a call server as disclosed by Ladd et al. in order to enable⁹ user to access information from any location in the world using voice inputs, as taught by Ladd et al. (column 2, lines 40-43 and lines 48-49). The combination would necessarily engage the user based on the dialog element, receive input from a user and prompt the user to verify possible matches for audibly-uttered user responses that were not understood based on the XML-based page contents.

In regard to claim 14, the method disclosed by Beith et al. used in the combination of Motorola, Beith et al., and Ladd et al., as applied to claim 13, above, operates to cause a processing system to generate a list of possible matches for a

received audible utterance (multiple name matches are sorted, Beith et al., column 9, lines 66-67).

In regard to claim 15, the method disclosed by Beith et al. used in the combination of Motorola, Beith et al., and Ladd et al., as applied to claim 13, above, comprises a namespace attribute that stores results from a grammar that are confirmed as not matching the utterance (see Beith et al., Fig. 7B, the method cycles through the list of possible recognition matches, moving to the next best match at step 346 when the possible recognition result is incorrect; the method, then, must necessarily store the results that are confirmed as not matching the utterance so that each possible recognition candidate is only presented one time to the user).

In regard to claim 16, Motorola discloses that the acknowledgement element comprises an expression attribute (page 5, Examples, in line 11 of the example code, the VALUE NAME="type" specifies that the answer given in the input element, lines 5-9 of the example, is to be verified).

In regard to claim 17, the method disclosed by Beith et al. used in the combination of Motorola, Beith et al., and Ladd et al., as applied to claim 13, above, specifies a loop to go through the list of possible matches for the utterance (when the user replies "no", the next best match is retrieved and presented to the user until all possible matches have been presented, Beith et al., column 10, lines 5-9).

In regard to claim 18, Motorola, Beith et al., and Ladd et al. do not disclose that an error announcement is made to announce when a match is not found.

The Applicant's admitted prior art discloses it is notoriously well known and recognized in the art to provide the user with an announcement that no match has been found, such as "I did not understand" or requesting the user to repeat the utterance, so the user can confirm whether the action associated with the utterance has been properly executed or not.

It would have been obvious to one of ordinary skill in the art at the time of invention to further modify the combination of Motorola and Beith et al. to announce that no match was found, so the user knows that their command was not understood.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


The following prior art is submitted as evidence of an n-best element implemented in a markup language. VXML (*An Introduction to Nbest Post-processing*) and Voxeo (*<nuance:nbest> element*) both disclose an nbest filter element was implemented in the Nuance Voice Web Server 1.3 (VWS 1.3). Nuance (*Expands Global Leadership in VoiceXML*) discloses the Nuance Voice Web Server 1.3 was reduced to practice prior to the application date of the instant application.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian L. Albertalli whose telephone number is (571) 272-7616. The examiner can normally be reached on Mon - Fri, 8:00 AM - 5:30 PM, every second Fri off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on (571) 272-7582. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BLA 8/11/05


SUSAN MCFADDEN
PRIMARY EXAMINER